Technology and Second Language Learning

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Introduction

Current technology provides new opportunities to increase the effectiveness of language learning and teaching. Incorporating well-organized and effective technology into second language learning and teaching for improving students' language proficiency has been refined by researchers and educators for many decades. Based on the rapidly changing evolution of technology, it is important for language teachers to recognize how to effectively and efficiently integrate technology into their curriculum design for not only helping students acquire second language easily, but also enhancing their motivation successfully.

Butler-Pascoe and Wiburg (2003) proposed twelve attributes of how technology enriches the second language learning environment as well as how technology meaningfully supports these characteristics. Most relevant characteristics will be delineated as follows in order to address the relationship between technology and second language learning.

(1) Provide Interaction, Communicative Activities, and Real Audiences

Nunan (1999) noted that "interactive visual media which computers provided seem to have a unique instructional capability for topics that involve social situations or problem solving, such as interpersonal solving, foreign language or second language learning" (p. 26). Obviously, when computer technology integrates the Internet into the curriculum design, it not only creates a multicultural gate for students to learn from an array of real world experiences, but also provides an interactional global world to help students learn communicatively. To be more specific, it may be difficult at times for teachers to teach abstract concepts to second language learners. With the assistance of computer technology, teachers can show authentic images or pictures through the assistance of multimedia to make their teaching activities more dynamic, interactional, meaningful, and communicative. In addition, technologies such as e-mails, blogs, podcasts, MSN

messenger, and Skype, also play supportive roles in providing interactive educational relationships to help students communicatively learn according to real-world situations.

(2) Supply Comprehensible Input

According to Butler-Pascoe (1997), computers employ a "multi-sensory collection of text, sound, pictures, video, animation, and hypermedia to provide meaningful contexts to facilitate comprehension" (p. 20). Comprehensive input strengthens students' second language learning dynamically and helps facilitate interactive learning. In other words, computer technology offers input to both conscious and unconscious learning processes. In fact, in some language classrooms, especially in the EFL teaching contexts, teachers are regarded as the main source of information input to satisfy students' linguistics and non-linguistics needs. However, since teachers cannot personally provide sufficient or authentic input, computer technology affords supportive tools to help teachers overcome this deficiency.

(3) Utilize Task-based and Problem-solving Activities

Task-based learning involves students' cooperative participation to gather information as well as work cohesively in order to complete the task. Through the task-based activities, students are encouraged to develop their problem-solving ability naturally within a group. For example, students can work together to design a creative web-based home page related to second language learning by using diverse multimedia. By creating their own website, students are able to increase their interest and motivation in learning a second language, and to gradually develop their problem-solving abilities during the learning process.

(4) Facilitate Focused Development of English Language Skills

A well-designed language learning class should help second language learners effectively develop their English language skills (i.e., listening, speaking, reading and writing), and provide students with multiple opportunities to practice of these skills (Butler-Pascoe, 2003). Appropriate

and well-developed websites not only help learners improve their listening skills, but also help them correct pronunciation, advance vocabulary learning, practice speaking ability and strengthen their reading proficiency. In fact, language teachers can incorporate different kind of computer technologies, such as podcasts, blogs, Moodle, Wiki, Skype, or Second Life into their language teaching to best help students develop their English language skills in the classroom alternatively. That is, various technologies provide different advantages for facilitating the development of second language learners English language skills.

(5) Use Multiple Modalities to Support Various Learning Styles and Strategies

Since different individuals have different learning styles, and language teachers vary in their teaching styles, various multimedia offer language teachers multiple technological instructions to incorporate into their language teaching in order to more easily satisfy students' diverse learning styles. Various technological modalities include learner-centered and teacher-centered; covert and overt; deductive and inductive; fluency-focused and accuracy-focused; and form-based and meaning-based. With such variety of technological teaching modalities, teachers will be capable to satisfy students' diverse learning styles. Thus, it is optimistic to see that students' motivation may be increased, resulting in more willingness to learn a second language.

(6) Meet Affective Needs of Students

Most EFL students seldom have the chance to speak English and are not completely confident in their English speaking and listening abilities. To aid these barriers, teachers can incorporate technologies such as Podcasting and Skype into the curriculum to successfully socialize students for English speaking environments, develop their confidence, overcome their difficulties, and lower their anxieties and shyness when speaking in front of people. Such technologies also create comfortable and safe settings that enhance self-esteem for students to better develop their language proficiency naturally for use in their daily lives.

(7) Foster Understanding and Appreciation of the Target and Native Cultures

When considering the learning interaction, computer technology effectively fosters understanding and appreciation of the target and native cultures. Through the conveyance of 21st technology, such as e-mail, Skype, MSN messenger, blogs, or Wiki, second language learners can easily communicate with people from different cultures. Such cultural interactions naturally help second language learners increase their appreciation of cultural differences, and help students avoid cultural misunderstanding. By supporting this, Butler-Pascoe (2003) indicated that "a language reflects the culture of those who speak it, and language learners bring to the learning task their own culture" (p. 18). In other words, computer technology provides second language learners a way to interactively share information about cultural identity and perceptions. Some students who are shy and introverted can particularly benefit from individualized technology learning environments for increasing their multicultural awareness. Ultimately, by combining well-organized computer technology and curriculum design, students can creatively explore their learning processes and expand their global knowledge.

Technology within ESL/EFL Teaching

In order to better help the ESL/EFL students understand the teaching materials, teachers can use 21st century technological teaching tools to assist students enthusiastically involve in the curriculum. Some technologies, such as, podcasts, blogs, Wiki, MSN messengers, or Moodle all provide students with opportunities to notice their gaps during the second language learning. These technologies not only help the EFL/ESL students improve their four skills but also broaden their global communication with people from different backgrounds. Kung (2002, as cited in Lai, 2006) stated that educators "recognize that utilizing computer technology and its attached language learning programs can be convenient to create both independent and collaborative learning environments and provide students with language experiences as they

move through the various stages of second language acquisition (p. 1). Undoubtedly, computer technology has become the effective teaching tools for helping teachers to successfully teach second language learners as well as to provide various opportunities for students to learn cooperatively.

Furthermore, Lee (2000) indicated that the rationales why educators need to incorporate computer and its attached language learning programs into second language instructions due to computer technology will be able to provide students with (1) experiential learning, (2) motivation, (3) enhance student achievement, (4) authentic materials for study, (5) greater interaction, (6) individualization, (7) independence from a single source of information, and (8) global understanding (p. 1). To be more specific, computer technology offers students multiple learning opportunities and activities to help them learn communicatively and actively. Such advantages can assist students to strengthen their second/foreign language proficiency, build their self-esteems, stimulate their learning attitudes, and even develop their own learning styles. To sum up, through the inspiration and creation of combining computer technology and the Internet, second/foreign language learners not only can explore their learning processes positively, but also extend their global knowledge communicatively.

According to Kung and Chuo's study (2002), the students found that learning English through ESL/EFL websites was interesting and the teaching strategies provided by the teachers were effective and efficient. All students showed positive attitudes to using the teacher-selected websites in their second language learning and considered that the Internet provided a useful tool during their second language learning. Conclusion suggested that second language teachers can integrate appropriate online reference books and commercial websites into their ESL/EFL curriculum design to better help them create more authentic and dynamic learning outcomes.

Marek (2008) further conducted a study related to the Internet videoconferencing to improve EFL learning, the results revealed that technology can (1) lead the EFL students to view cultural content positively, (2) stimulate them to become active learners and make learning more dynamic, (3) provide the EFL students with authentic materials to learn accurate American pronunciation and usage, (4) lower their learning anxiety while speaking with Americans, and (5) offer an individual and independent on-line environment to make them learn comfortably and enjoyably.

In fact, computer technology begins to be regarded as "active partners" than "passive assistants" (Debski & Gruba, 1999). In order to enhance ESL/EFL students' learning productivity as well as stimulate their second/foreign language learning interests, teachers, administrators, stakeholders, curriculum designers, program developers, and all technological experts are encouraged to cooperate together to best develop well-organized technological programs that combining different kinds of computer technologies to assist ESL/EFL students to learn second language effectively and efficiently.

Technology Enhanced Language Learning Environment (TELLE)

In order to inspire students' passion for learning, it is very important to create a comfortable, enjoyable, and learner-centered environment. Classroom arrangement also plays a key role when working with students' learning attitudes and motivation towards language learning. According to Butler-Pascoe (2003),

> Classrooms are no longer centered only on the teacher but become learner-centered environments where students collaborate on authentic projects under the guidance of the teacher facilitator. A wide array of technology programs, websites, and communication tools support this type of collaborative learning and provide numerous opportunities for student-student and student-teacher interaction (pp. 38-39).

Butler-Pascoe (2003) further indicated that "the arrangement of desks into learning clusters surrounded by computer work stations in technology-enhanced classes epitomized the change from traditional teacher-fronted instruction to collaborative learning experiences using technology to meet student needs" (p. 40). In other words, traditional classroom arrangement appears to lack a two-way communication and interaction between teacher-student and student-student. In order to best satisfy students' learning needs as well as catch their focus on learning, a technology enhanced language learning environment (TELLE) is encouraged to replace the traditional structural classes which only allow teacher-fronted instruction. TELLE provides students with a communicative environment to work individually, with partners, or even with group members to more effectively and efficiently complete their classroom task (Butler-Pascoe, 2003). Such an optimum learning environment not only helps students to learn meaningfully and communicatively, but also allows teachers to guide students more smoothly.

Limitations and Conclusion

Although many advantages to using technology have been proposed almost ubiquitously by researchers in the field of education (Butler-Pascoe & Wiburg, 2003; Lai, 2006; Brown, 2007), it is not as easily implemented as it appears. Difficulties in technology implementation within curriculum arise due to the following reasons: 1) most teachers lack sufficient technology training and basic technology knowledge to effectively assist students in second language learning and teaching. It is also a challenge when the majority of EFL teachers are skilled in the teacher-centered instruction. Therefore, it may be difficult to motivate educational systems to adopt improved ways of training new teachers, as well as to motivate the already established teachers to adopt technology into their teaching, 2) some private schools may not have efficient budgets to afford expensive hardware and software due to poor economic situations in today's society. Regarding limited budgets and lack of sufficient equipment, schools may not easily

integrate computer technology into classroom teaching, 3) low-income families may not have ability to purchase computers due to their restricted financial budget, and 4) some software of CALL programs is still not fully germane to teaching the four fundamental English skills, such as listening, speaking, reading, and writing. Warschauer (2004) indicated that rather than focusing on the correctness of a user's speech, it is better to evaluate a program by how it evaluates students' language "appropriateness" as well as to provide students with appropriate technology. However, with continued contribution of 21st century technology and efforts of educators around the world, the aforementioned obstacles in implementing technology into curriculum may begin to decrease and optimism about application progress may also increase. With anticipation, teachers around the world whom effectively employ technology in their language teaching can influence students' communicative learning outcomes and dynamically enhance their learning motivation. Eventually, both teachers and students can benefit from these 21st century technological teaching tools.

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